Latrobe Valley Naturalist

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A Grey-headed Flying-fox *Pteropus poliocephalus* photographed at Lake Guyatt by David Stickney on his way to the Club's summer camp at Lake Tyers in February 2021.

Contact

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General meetings

Held at 7:30 pm on the fourth Friday of each month at the Newborough Uniting Church, Old Sale Road Newborough VIC 3825

Upcoming events

January general meeting: Friday 14 January – Summer members' night (possibly via Zoom, TBC)
Bird Group: Thursday 20 January – Energy Australia Wetlands, 9am
Bird Group: Tuesday 1 February – Twilight birding at Yinnar & Boolarra. Meet 5pm at 50 Lewis Rd Yinnar. BYO Dinner. Tea, coffee, dessert provided. Must book with Joelle 0459 504 305.
Club Summer Camp 2022: 4 – 8 February at Mt Hotham
Botany Group: Saturday 12 February – plants from Summer Camp
February general meeting: Friday 25 February – Seagrasses
February excursion: Saturday 26 February – Beach location TBC
Bird Group: Tuesday 1 March – Tooradin and Cannons Creek. Meet 9am at the community hall, 15 Cannons Creek Rd, Cannons Creek.

CLUB SUMMER CAMP 2021 – Part 2

Lonely Bay – Monday afternoon

While we were waiting for people to gather and form a convoy to Lonely Bay, we explored the roadside at the start of the north branch of Burnt Ridge Track. We noticed plants we had seen earlier during the camp, such as *Acacia genistifolia*, *Allocasuarina littoralis* and *Stypandra glauca*, but there were new ones to add to our list too: *Acacia suaveolens*, *Spyridium parvifolium* appearing in patches and *Callistemon citrinus* scattered through the bush.

James Turner, our guide from the Bairnsdale FNC led the way in his vintage yellow Toyota ute. We were warned about poor road conditions by Phil, but very few were deterred. We did have a fair number of bumps and splashes on Burnt Ridge Track, but Blackfellow Arm Track turned out to be a lot better than expected. The ranger who joined us for a short while in the carpark of the Lonely Bay walking trail explained that Parks Victoria does not get a budget for track maintenance, and that DELWP is meant to take care of this.

Veined mock-olive (Photo: Tamara Leitch)

From the carpark we walked downhill to the water's edge through forest dominated by Silvertop *Eucalyptus sieberi* and Ironbark *E. tricarpa*. In the understorey we saw lots of plants, mostly familiar ones. Some of the more interesting sightings were Blue Howittia *Howittia trilocularis*, Cut-leaf Daisy *Brachyscome multifida* and Large Mock-olive *Notolaea venosa*.

At the start of the Fern Walk we were confronted with a sign saying the track was closed. We decided to ignore the signs and we were glad we did as we did not encounter any obstructions during our walk and would have missed out on some interesting vegetation. It appeared more a case of deterrence than anything else.

While we scrambled up and down the gully and over roots and logs, James pointed out interesting plants such as Yellow-wood *Acronychia oblongifolia*, which is confined to a few warm-temperate rainforest communities between Mitchell River gorge and the NSW border. An old log was home to a yellow slime mould and some small pieces of Fragrant Fern *Microsorium scandens*. Most of us would have missed the Weeping Spleenwort *Asplenium flaccidum subsp. flaccidum* high up in a tree. There were glades of Jungle Brake *Pteris umbrosa* and smaller amounts of Tender Brake *P. tremula*.

A carpet of Jungle Brake on the forest floor (Photo: Tamara Leitch)

Lilly-Pilly trees *Acmena smithii* were abundant too. As the mouth of the river was shut at the time of the camp, the water level in Lakes Tyers was fairly high which offered great opportunities for kayaking. While crossing water on the boardwalk, we noticed a jellyfish in the water.

Buchan Blue Wattle (Photo: Tamara Leitch)

We drove to the end of Blackfellow Arm Track and explored the edge of the bay. It did not feel lonely with farmland close by. James indicated the farmland used to be part of the Lake Tyers Aboriginal Mission.

As an extra, James took us a short distance on Toorloo Arm Road to a place where the road was cut through limestone. The cut had exposed interesting little caves and marine fossils in the rock. The place was of botanical interest too. The Buchan Blue Wattle *Acacia caerulescens* made a spectacular display against the limestone in the late afternoon sun. Other plants worth mentioning are Limestone Pomaderris *Pomaderris oraria subsp. calcicola* and Small-fruit Fan-flower *Scaevola albida*.

Marja Bouman

Other highlights of the camp

Driving home from our Lake Tyers camp, Ken and I discussed what our highlights of the trip were and we came up with some surprising results – neither of our favourite moments were part of the official camp program but emphasised the value of taking extra opportunities that arise while attending our camps.

Ken's highlight was seeing Grey-headed Flying-foxes that had taken over the surrounds of Lake Guyatt and part of Lake Guthridge. We stopped at Sale both on our way to the camp and on our return. We estimated the number to be in excess of 2000, occupying every tree around the lakes. The Sale & District Field Naturalists Club had been monitoring them and said there were greater numbers than our estimates. They can be found along the east coast from southern Queensland to Victoria and tend to form large camps in the summer and disperse in the winter months. The sheer number was extraordinary and one has to ask what food source could sustain such a large population?

Grey-headed Flying-fox at Sale (Photo: David Stickney)

Lake Guyatt was also noteworthy for the large number of waterbirds on the lake – mostly white ones. There were large numbers of Royal Spoonbills (200+), Cattle Egrets, White Ibis and a single Intermediate Egret, which is uncommon in Gippsland. Even more surprising was the number of species breeding on the island in Lake Guyatt. The island is no more than 30 m in diameter, with a couple of eucalypts and some understory vegetation, however there were Royal Spoonbills and Little

Black Cormorants feeding young, and Little Pied Cormorants, Cattle Egrets and White Ibis sitting on nests.

Sugar Glider (Photo: David Stickney)

What is remarkable about our Club is the great diversity of interests members have and John Poppins is no exception. He brought along a thermal-imaging camera and we spent a couple of evenings observing and identifying some of the nocturnal species around the campsite. The most common mammals were Ring-tailed Possums, and the camera was also able to detect many sleeping birds. However, my highlight was seeing a Sugar Glider on a tree stump that was no more than 3 m from the front door of our cabin! The Glider stayed long enough for some photographs to be taken and then glided some distance to the next tree and disappeared. Unfortunately, John did not have an opportunity of viewing the glider through his camera.

The camp was one of our most successful ever, with 40 members attending, and I would like to express the Club's thanks to Phil for preparing and managing the program and Wendy for organising the accommodation and evening meals.

David Stickney

A plant list for the camp is available in Appendix I of this Naturalist.

Mt Saint Gwinear botany excursion 06.03.2021

The six people who came on this botany excursion were agreeably surprised by the sunny, warm day and the interesting plants and birds we saw, despite most plants having finished flowering.

The prize of the day was Alpine Ballart *Exocarpos nanus* covered in fruit. This is a tiny ground-hugging plant and very different to the other species of *Exocarpus* which are tall shrubs or trees. Wax-berry *Gaultheria appressa* was also in fruit.

The Sub-alpine Beard Heath *Acrothamnus maccraei* (previously *Leucopogon maccraei*) was covered in red berries, and there were many of them along the track.

We were keen to continue our walk past Mt Saint Gwinear to the bog area to see if the Gentians were flowering, and we were rewarded with many fresh flowers. I think the colour in my photo is rather pinker than they were in reality.

There were a number of Mauve Leek-orchids *Prasophyllum suttonii* along the track, and we found one plant of Creeping Fan-flower *Scaevola hookeri* in full bloom.

Alpine Ballart (Photo: Wendy Savage)

Clockwise from left: Sub-alpine Beard-heath on the track that skirts below Mt Saint Gwinear summit, looking in the direction of Thomson Dam; Snow Gentian; Mauve Leek-orchid; Creeping Fan-flower (Photos: Wendy Savage).

There were hordes of Silvereyes calling all day, and Lyrebirds were heard at various places on our walk. The most exciting sight was a group of Blue-winged Parrots.

I don't believe we had put the Baw Baw National Park on our Botany program before, and I think it was well worth it, particularly if we are blessed with the glorious weather we had that day. It was also interesting to visit in March to see more things in fruit than flower.

Wendy Savage

Mathison Park and Billys Creek 24.04.2021

Our excursion in April was divided between Mathison Park in the morning and Morwell National Park in the afternoon. We were fortunate to be led by a member of the Friends group of both these parks: Ken Harris was the inspiration for the formation and development of the parks and was able to guide us through some of the main features.

At Mathison Park, we began with a scenic walk along the side of Lake Hyland which is notable for both waterbirds and bush birds. There were the ever-present coots, swamphens and moorhens (which are all part of the gallinule family) as well as black and wood ducks. The bonuses were a pelican and a Great Egret, the latter of which has become less common in recent years. On my last walk there I heard a Spotless Crake in the reeds, but I had no such luck today.

We were then diverted to a recently-made track through a planting of Australian and New Zealand conifers. There are more than 70 endemic species of conifers in Australia and New Zealand and the intention was to plant a significant number in this arboretum. Planting started in the Early 1990s and most have survived well but, paradoxically, the Tasmanian species all died. The Friends group are planning a further plantation in a different location. They had the most mature Wollemi Pine *Wollemia*

nobilis I have seen and some of the other species are White Cypress-pine *Callitris columellaris*, Bunya Pine *Araucaria bidwillii*, Kauri Pine *Agathis australis*, Hoop Pine *Araucaria cunninghamii*, Norfolk Island Pine *Araucaria heterophylla* and Podocarpus Pine *Podocarpus elatus*. Apart from a couple of exceptions, all are endemic to Australia and New Zealand and many have limited distribution. It is unfortunate that the pines are not labeled and promoted because it would provide a valuable education tool for the public.

It was a different story on our return trip where there was a plantation of *Eucalyptus* species which were all numbered and could be identified. There were 25 species planted and most had survived. Some of the party elected to walk back to the carpark on the eastern side of the lake and were rewarded with sightings of a Wedge-tailed Eagle (unusual so close to suburbia) and a Goshawk. This park is a pleasant and popular spot for a walk and thanks go to the Friends group for keeping it well maintained.

Leaves of Sweet Pittosporum (top) and Muttonwood (bottom). Photos: David Stickney.

Following lunch, we walked along Billys Creek in Morwell National Park. This section was added to the park in 1989 and a major program of planting was carried out by the Friends group. We commenced our trek from the end of Braniffs Road and went as far as the Weir, which was built in 1913 and was the original water supply for Morwell. Most of the trees were Manna Gums but it was surprising to find a single Muttonwood *Myrsine howittiana* tree among a clump of Pittosporums *Pittosporum undulatum*. This would have been completely overlooked by most walkers through the park because the leaves are so similar. Both of the leaves are shiny, leathery, green with paler green underside, elliptical in shape and with undulating edges, but the Muttonwood is slightly smaller and the apex of the leaf is obtuse.

It was an enjoyable and informative day and our thanks go to Ken for leading the excursion and providing us with information on plant identification.

David Stickney

Hamilton SEANA Camp

The Hamilton Field Naturalists Club hosted the Autumn 2021 statewide gathering over the weekend of 16-18th April – the first South Eastern Australian Naturalists Association (SEANA) camp since October 2019. Nine members of our Club and several from Sale participated, amongst a total of 128 registrants. This was a great outcome, given the many constraints of hosting a COVID-safe event. The base for registration, SEANA meetings, Friday evening dinner and presentation, and excursion departures, was the Hamilton Institute for Rural Learning (HIRL), a spacious community education facility with a focus on environmental and creative arts programs.

Following the Friday evening welcome and BBQ dinner, local naturalist Yvonne Ingeme gave an excellent presentation covering the status and recovery of the critically endangered Eastern Barred Bandicoot. Our Club recently learned something of the recovery project on Churchill Island following the successful eradication of foxes there. It emerged that another component of the Victorian program is a 90 ha securely-fenced enclosure in the Community Parklands on the northern edge of Hamilton township, adjacent to the HIRL.

The inspiring guest speaker on Saturday evening was Mark Bachmann, Principal Ecologist and Manager of the Nature Glenelg Trust (NGT). The Trust is a non-government, not-for-profit, charitable environmental organisation that works across temperate south-eastern Australia. It seeks to put restoration science into practice, focusing on reversing the trends of decline that have led to the extinction of many species, via restoration of ecological processes. Over the past decade, the Trust has worked with the managers of public and private land to improve the condition of wetlands across more than 6,000 ha of land. One of the major projects covered by Mark was the restoration of Walker Swamp, situated in the Southern Grampians near Dunkeld on the floodplain of the Wannon River.

Our enjoyment of the comprehensive range of camp excursions was enhanced by the availability of a new second edition of the *Hamilton Region Nature Guide,* produced by the host club. In my capacity as SEANA President, I had the pleasure of helping to launch it after the catered dinner at a local motel on the Saturday evening. SEANA was pleased to be able to help fund the printing costs under its Small Grants and Loans scheme. This comprehensive and well-illustrated guide of some 80 pages covers a region of Victoria of great significance in natural history terms, spanning the Grampians/Gariwerd NP, significant Aboriginal cultural heritage including the Budj Bim World Heritage site (so inscribed by UNESCO in July 2019) and important features of Victoria's Western Volcanic Plains.

The camp program included 25 full-day and half-day excursions across the weekend, including some self-guided activities but with most led by Hamilton FNC members, in some cases with the assistance of folk from the Warrnambool club. Just to mention two of the excursions, Gill and I enjoyed an exploration of Mt Napier/Tapoc and associated volcanic features on Saturday, and a Sunday walk on the flora-rich Piccaninny Trail between Mt Sturgeon and Mt Abrupt in the Southern Grampians.

The caldera of Mt Napier (Photo: Phil Rayment)

One of the Byaduk Caves (Photo: Phil Rayment)

Mt Napier's peak has a classic 'volcano' shape: its scoria cone is the most intact in southern Australia, with a breached crater at the top. Recent dating of its rocks suggests that it erupted about 44,000 years ago. The extensive lava flows down the Harman Valley contain the lava tubes of the Byaduk Caves which we visited in the afternoon. Here, several large collapse holes give views down into the caves, which are accessible only with the right skills and equipment.

Congratulations go to the Hamilton club for organising a terrific SEANA camp, whilst having to contend with both the twelve months postponement of an event originally planned for Autumn 2020 and the many Victorian Government requirements for COVID-safe operation of such a sizeable gathering.

Phil Rayment

Platypus conservation and monitoring

We had our first formal Zoom meeting for 2021 in May and our speaker was Geoff Williams who is a director of the Australian Platypus Conservancy. Geoff has a long history of studying platypus and has been a director of several sanctuaries including Taronga Zoo and Healesville Sanctuary. At Healesville he established a new facility and breeding program for platypus. He then co-founded the Conservancy in 1994 and has been a director ever since.

Geoff's work has been largely responsible for improving the fortunes of this threatened species. It was only listed as Vulnerable in Victoria as recently as 2021 but has been on the IUCN Red List since 2016. He has worked with hundreds of volunteers, mainly undertaking live trappings and documenting visual sightings to create a solid database of knowledge about the species.

Platypus feeding (Photo: Peter Walsh)

The platypus is a unique mammal. Its bill is not hard and solid like a duck's bill but soft, rubbery and very sensitive. It closes its eyes and ears when it dives and uses the bill to detect its prey through a process of electrolocation. This sense is very useful for the platypus because it is largely nocturnal and may have to search for its prey in murky water. Platypus have an extraordinarily high metabolic rate and must eat 20-40% of their body mass each day. It is one of the few species of venomous mammals as the male platypus has a spur on its hind foot that delivers a venom capable of causing severe pain in humans. It has webbed feet like an otter, with long claws on the hind feet that are used mainly for grooming.

The platypus is a species I haven't seen for many years and one of the features of Geoff's talk was where to find them and what to look for. One of the slides showed typical habitat of the platypus but there is a higher probability of seeing one in larger bodies of water. They spend most of the time under the water but will surface at intervals of 30 to 50 seconds and stay on the surface for 10 to 15 seconds. They will usually be feeding when they surface, and then duck dive leaving a characteristic ripple. They can be seen during the day but the prime time for seeing them is the early morning or late afternoon.

The population of platypus has been declining over a number of years and they are now extinct in areas that they previously occupied. Several of Geoff's slides showed how humans and climate change have impacted platypus habitat. There were several lethal examples of platypus being caught in fishing

Platypus surfacing (Photo: Barry Baker)

nets and hooks.

It is important that we monitor the population of platypus in our area. There is anecdotal evidence that platypuses are less common than a couple of decades ago. Geoff showed a number of slides comparing platypus with rakali and highlighted a number of indicators in the habits and water ripples to avoid confusion. I would like to thank Geoff for his inspiring presentation and hope we can add to his database of knowledge in our area.

David Stickney

Additional notes from Geoff's presentation on platypus biology, conservation and monitoring can be found in Appendix II of this Naturalist.

Lyrebird Walk fungi excursion 05.06.2021

The Botany Group decided to visit Lyrebird Walk again this year to look at fungi as last year's excursion in late May was so rich in interesting and varied fungi.

Surprisingly, COVID-19 restrictions were again in place after a long period of freedom from lockdowns. Again only a group of 10 could meet outdoors, and we had no trouble finding that number of botanists keen to come.

This time we met by the pumping station across the road from Lyrebird Walk as we thought the carpark may be crowded with people enjoying the easing of 'stay at home' restrictions. We reasoned that as the habitat is similar it should be equally good for fungi, and we did find quite a few there. We moved across to Lyrebird Walk for lunch and spent the afternoon walking the tracks there.

It was an icy cold day and walking slowly photographing and examining fungi is not a warming activity. We had a fantastic time just the same, as there were plenty of fungi to see – some the same as last year, but many different ones.

In this joint write-up, we will only describe the ones not covered in last year's excursion, which was printed in the Nov-Dec 2020 issue of the Naturalist.

Russula persanguinea
(Photo: Wendy Savage)

We saw two species of *Russula*, both with reddish caps (colours fade with age) but one had pure white gills and stem and the other had cream coloured gills and a pink stem. The first was *Russula persanguinea* and the second was in the *Russula clelandii* complex. *Fungi in Australia*, the Field Naturalists Club of Victoria's eBook, explains that this complex is a group which includes *R. clelandii* and *R. lenkunya*, and these two species are so similar that DNA analysis will most likely be required to decide if they are different species or a single variable species.

Russulas are commonly known as 'brittlegills' as apparently if you bend the gills down against the cap they will snap. Also the stipe, if broken, will snap like an apple, whereas in most other families it will break into fibres. Interesting things to try in the field!

We all enjoyed seeing a wonderful specimen of Emperor Cortinar *Cortinarius archeri*, which was growing at right angles on a steep bank. It's very eye-catching with a purple cap, brown gills and

purple stem below the annulus. As Margaret Rowe described in last year's write-up, the Cortinars or Webcaps have a cortinar (veil) between the cap and stem but it is only visible when very young. They all have a rusty brown spore print and many species have a viscid cap or pileus.

Emperor Cortinar (Photo: Baiba Stevens)

Another easily recognisable Cortinar we saw was Elegant Blue Cap *Cortinarius rotundisporus*. This one had a very viscid pale-blue cap with an orange-yellow centre, which is a distinguishing feature of the species. I also photographed a pair of uniformly red-coloured gilled fungi which were identified as *Cortinarius* when I put them on iNaturalist, and I think they may be *C. kula* which is described as having a blood-red pileus and stipe.

Wendy Savage

Elegant Blue Cap (Photo: Baiba Stevens)

We saw several *Mycena* species on our walk and were very excited to identify a couple of the tiny ones. The genus *Mycena* is in the Mycenaceae family and is an agaric (gilled fungus) in the Basidiomycetes group.

Nargan's Bonnet *Mycena nargan* was found on the underside of a rotting log in a very moist area of the forest. It grows up to 5 cm tall. The pileus or cap, up to 2 cm wide, is a dark chestnut colour and is distinguished by white, easily-removed speckles or scales. The cream-coloured gills are widely spaced and bluntly attached to the stipe, which is pale, slender and has white scales at the base. The spore print is white or cream. The specimens we found were really tiny with caps about the size of the gumnuts on the ground nearby. Margaret Rowe spotted them when bending down to look at another fungus. Their intricate beauty was only revealed under magnification.

Nargan's Bonnets (Photo: Lorraine Norden)

Pixie's Parasol *Mycena interrupta* was found on a large fallen log. This tiny, fragile agaric has a translucent blue cap, from 0.8 to 2 cm wide. The caps are globose when emergent and then become broadly convex as they mature, with the centre of the cap slightly depressed.

Pixie's Parasol (Photo: Lorraine Norden)

The caps are often sticky and appear slimy looking, particularly in moist weather. The length of the stipe typically ranges from 1 to 2 cm long and 0.1 to 0.2 cm thick. It is white, smooth and the base is attached to the wood substrate by a flat white disc. The spore print is white.

Lorraine Norden

To be continued…

REPORT ON BUSINESS MEETING 15.11.2021

Finance

Cash Management Trading Account: $1,665.30 Term Deposit: $24,103.90

Business Arising, Correspondence & General Business

- Geoff Tims passed away 11 Nov 2021. A memorial service won't be held for some time. Members may write to the family via Andrea Tims, 206 Church Street, Brighton VIC 3186
- Digitising records – after Christmas, Marja will undertake a pilot project scanning some lists to .jpg format and setting up an index.
- Mt Baw Baw Alpine Resort is looking to produce a fold-out guide on flora and fauna, and some Club members have been providing images and descriptions of the main birds and plants.
- Discussions occurring between the Club and Gippsland FM radio regarding interviews to promote our monthly activities.

Conservation Matters

- Committee members have provided submissions on the Parks Vic Land Management Strategy regarding commercialisation of public parks, and draft Kosciuszko Wild Horse Management Plan
- Irene, Phil and Wendy have read over Version 2 of the draft Uralla Fire Management Plan and determined no response is required from the Club.
- Irene to attend DELWP meeting on 23 November regarding biodiversity management for the Strategic Fuel Break program, with particular interest in burning of Round-leaf Pomaderris habitat.

Thank you to everyone who contributed to The LV Naturalist in 2021. Best wishes for a Merry Christmas and a safe and happy New Year to all our members, their families and friends.

Latrobe Valley Naturalist is the official publication of the Latrobe Valley Field Naturalists Club Inc. The Club subscription includes the "Naturalist".

Brief contributions and short articles on any aspect of natural history are invited from members of all clubs. Articles, including those covering Club speakers and excursions, would typically be around one A4 side in length, should not exceed 1,000 words, and may be edited for reasons of space and clarity. Photos should be sent as an attachment and be a maximum of 1 megabyte in size.

Responsibility for the accuracy of information and opinions expressed in this magazine rests with the author of the article.

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Deadline for articles to be considered for inclusion in the next issue (January/February): 1 February 2022

APPENDICES

APPENDIX I – Plants recorded during the Club's summer camp at Lake Tyers, 6-8 February 2021 (M. Rowe *et al.*)

FERNS

Aspleniaceae	*Asplenium flabellifolium*	Necklace Fern
Aspleniaceae	*Asplenium flaccidum*	Weeping Spleenwort
Blechnaceae	*Blechnum minus*	Soft Water-fern
Blechnaceae	*Blechnum nudum*	Fishbone Water-fern
Blechnaceae	*Blechnum parrisiae*	Common Rasp-fern
Cyatheaceae	*Cyathea australis*	Rough Tree-fern
Dennstaedtiaceae	*Pteridium esculentum*	Austral Bracken
Dicksoniaceae	*Calochleana dubia*	Common Ground-fern
Dryopteridaceae	*Polystichum proliferum*	Mother Shield-fern
Hymenophyllaceae	*Hymenophyllum cupressiforme*	Common Filmy-fern
Lindsaeaceae	*Lindsaea linearis*	Screw Fern
Polypodiaceae	*Microsorium scandens*	Fragrant Fern
Pteridaceae	*Adiantum aethiopicum*	Maidenhair Fern
Pteridaceae	*Pellaea falcata*	Sickle Fern
Pteridaceae	*Pteris tremula*	Tender Brake
Pteridaceae	*Pteris umbrosa*	Jungle Brake

MONOCOTYLEDONS

Asparagaceae	*Eustrephus latifolius*	Wombat Berry
Asparagaceae	*Lomandra longifolia subsp. longifolia*	Spiny-headed Mat-rush
Asphodelaceae	*Bulbine bulbosa*	Bulbine Lily
Asphodelaceae	*Dianella caerulea*	Paroo Lily
Asphodelaceae	*Dianella revoluta*	Black-anther Flax-lily
Asphodelaceae	*Dianella tasmanica*	Tasman Flax-lily
Asphodelaceae	*Geitonoplesium cymosum*	Scrambling Lily
Asphodelaceae	*Stypandra glauca*	Nodding Blue-lily
Asphodelaceae	*Xanthorrhoea minor*	Small Grass-tree
Colchicaceae	*Burchardia umbellata*	Milkmaids
Cyperaceae	*Carex longebrachiata*	Bergalia Tussock
Cyperaceae	*Cyperus congestus**	Dense Flat-sedge
Cyperaceae	*Ficinia nodosa*	Knobby Club-sedge
Cyperaceae	*Gahnia clarkei*	Tall Saw-sedge
Cyperaceae	*Gahnia melanocarpa*	Black-fruit Saw-sedge
Cyperaceae	*Gahnia radula*	Thatch Saw-sedge
Cyperaceae	*Lepidosperma elatius*	Tall Sword-sedge

Cyperaceae	*Lepidosperma laterale*	Variable Sword-sedge
Cyperaceae	*Lepidosperma sieberi*	Sand-hill Sword-sedge
Hypoxidaceae	*Hypoxis hydrometrica*	Golden Weather-glass
Juncaceae	*Juncus pallidus*	Pale Rush
Orchidaceae	*Chiloglottis valida*	Common Bird-orchid
Orchidaceae	*Cryptostylis leptochila*	Small Tongue-orchid
Orchidaceae	*Dipodium roseum*	Hyacinth Orchid
Orchidaceae	*Dipodium variegatum*	Blotched Hyacinth-orchid
Poaceae	*Anisopogon avenaceus*	Oat Spear-grass
Poaceae	*Austrostipa blackii*	Speargrass
Poaceae	*Austrostipa rudis*	Veined Spear-grass
Poaceae	*Echinopogon ovatus*	Hedgehog Grass
Poaceae	*Microleana stipoides*	Weeping Grass
Poaceae	*Oplismenus hirtellus*	Australian Basket-grass
Poaceae	*Phragmites australis*	Common Reed
Poaceae	*Poa labillardieri*	Common Tussock-grass
Poaceae	*Rytidosperma pallidum*	Red-anther Wallaby-grass
Poaceae	*Rytidosperma setaceum*	Bristly Wallaby-grass
Poaceae	*Themeda triandra*	Kangaroo Grass
Smilacaceae	*Smilax australis*	Lawyer Vine

DICOTYLEDONS

Aizoaceae	*Carpobrotus modestus*	Inland Pigface
Aizoaceae	*Tetragonia tetragonoides*	New Zealand Spinach
Apiaceae	*Apium prostratum*	Sea Celery
Apiaceae	*Centella cordifolia*	Centella
Apiaceae	*Daucus glochidiatus*	Austral Carrot
Apiaceae	*Platysace lanceolata*	Shrubby Platysace
Apiaceae	*Xanthosia pilosa*	Woolly Xanthosia
Apiaceae	*Xanthosia tasmanica*	Southern Xanthosia
Apiaceae	*Xanthosia tridentata*	Hill Xanthosia
Apocynaceae	*Alyxia buxifolia*	Sea Box
Apocynaceae	*Marsdenia rostrata*	Common Milk-vine
Apocynaceae	*Parsonsia brownii*	Twining Silk-pod
Apocynaceae	*Tylophora barbata*	Bearded Tylophora
Araliaceae	*Hydrocotyle hirta*	Hairy Pennywort
Asteraceae	*Bedfordia arborescens*	Blanket-leaf
Asteraceae	*Brachyscome multifida*	Cut-leaf Daisy
Asteraceae	*Cassinia aculeata*	Common Cassinia
Asteraceae	*Cassinia longifolia*	Shiny Cassinia

Asteraceae	*Cassinia trinerva*	Three-nerved Cassinia
Asteraceae	*Cirsium vulgare**	Spear Thistle
Asteraceae	*Cotula coronopifolia **	Water Buttons
Asteraceae	*Delairea odorata**	Cape Ivy
Asteraceae	*Erigeron sumatrensis**	Tall Fleabane
Asteraceae	*Euchiton sphaericus*	Annual Cudweed
Asteraceae	*Gamochaeta purpurea**	Purple Cudweed
Asteraceae	*Helichrysum leucopsideum*	Satin Everlasting
Asteraceae	*Hypochoeris radicata **	Cat's-ear
Asteraceae	*Lagenophora sublyrata*	Slender Bottle-daisy
Asteraceae	*Olearia argophylla*	Musk Daisy-bush
Asteraceae	*Olearia lirata*	Snow Daisy-bush
Asteraceae	*Olearia phlogopappa*	Dusty Daisy-bush
Asteraceae	*Ozothamnus argophyllus*	Spicy Everlasting
Asteraceae	*Senecio hispidulus*	Rough Fireweed
Asteraceae	*Senecio minimus*	Shrubby Fireweed
Asteraceae	*Senecio prenanthoides*	Common Fireweed
Asteraceae	*Sigesbeckia orientalis*	Indian Weed
Asteraceae	*Sonchus asper**	Prickly Sow Thistle
Asteraceae	*Sonchus oleraceus**	Sow Thistle
Asteraceae	*Symphyotrichum subulatum**	Aster-weed
Asteraceae	*Xerochrysum bracteatum*	Golden Everlasting
Bignoniaceae	*Pandorea pandorana*	Wonga Wine
Boraginaceae	*Hackelia latifolia*	Forest Hound's-tongue
Boraginaceae	*Hackelia suaveolens*	Sweet Hound's-tongue
Campanulaceae	*Lobelia anceps*	Angled Lobelia
Campanulaceae	*Wahlenbergia gracilis*	Sprawling Bluebell
Caprifoliaceae	*Sambucus gaudichaudiana*	White Elder-berry
Caryophyllaceae	*Polycarpon tetraphyllum**	Four-leaved Allseed
Caryophyllaceae	*Stellaria flaccida*	Forest Starwort
Caryophyllaceae	*Stellaria pungens*	Prickly Starwort
Casuarinaceae	*Allocasuarina littoralis*	Black Sheoke
Celastraceae	*Stackhousia monogyna*	Creamy Candles
Chenopodiaceae	*Einadia hastata*	Saloop Saltbush
Chenopodiaceae	*Einadia nutans*	Nodding Saltbush
Chenopodiaceae	*Rhagodia candolleana*	Seaberry Saltbush
Chenopodiaceae	*Salicornia quinqueflora*	Beaded Glasswort
Chenopodiaceae	*Suaeda australis*	Austral Seablite
Convolvulaceae	*Calystegia marginata*	Forest Bindweed
Convolvulaceae	*Dichondra repens*	Kidney-weed
Dilleniaceae	*Hibbertia empetrifolia*	Trailing Guinea-flower

Dilleniaceae	*Hibbertia riparia*	Erect Guinea-flower
Elaeocarpaceae	*Elaeocarpus reticulatus*	Blueberry Ash
Elaeocarpaceae	*Tetratheca pilosa*	Hairy Pink-bells
Ericaceae	*Acrotriche serrulata*	Honey Pots
Ericaceae	*Epacris impressa*	Common Heath
Ericaceae	*Leucopogon parviflorus*	Coast Beard-heath
Ericaceae	*Styphelia humifusa*	Cranberry Heath
Euphorbiaceae	*Amperea xiphoclada*	Broom spurge
Euphorbiaceae	*Phyllanthus hirtellus*	Thyme Spurge
Fabaceae	*Acacia caerulescens*	Buchan Blue Wattle
Fabaceae	*Acacia genistifolia*	Spreading Wattle
Fabaceae	*Acacia implexa*	Lightwood
Fabaceae	*Acacia longifolia*	Sallow Wattle
Fabaceae	*Acacia longifolia var. sophorae*	Coast Wattle
Fabaceae	*Acacia mearnsii*	Black Wattle
Fabaceae	*Acacia melanoxylon*	Blackwood
Fabaceae	*Acacia suaveolens*	Sweet Wattle
Fabaceae	*Acacia terminalis*	Sunshine Wattle
Fabaceae	*Bossiaea obcordata*	Spiny Bossiaea
Fabaceae	*Bossiaea prostrata*	Creeping Bossiaea
Fabaceae	*Daviesia latifolia*	Hop Bitter-pea
Fabaceae	*Desmodium gunnii*	Southern Tick-trefoil
Fabaceae	*Dillwynia glaberrima*	Smooth Parrot-pea
Fabaceae	*Glycine clandestina*	Twining Glycine
Fabaceae	*Glycine tabacina*	Variable Glycine
Fabaceae	*Hardenbergia violacea*	Purple Coral-pea
Fabaceae	*Indigofera australis*	Austral Indigo
Fabaceae	*Platylobium parviflorum*	Handsome Flat-pea
Fabaceae	*Pultenaea retusa*	Blunt Bush-pea
Gentianaceae	*Centaurium erythraea**	Common Centaury
Geraniaceae	*Geranium sp.*	Geranium
Goodeniaceae	*Goodenia ovata*	Hop Goodenia
Goodeniaceae	*Scaevola albida*	Small-fruit Fan-flower
Goodeniaceae	*Scaevola ramosissima*	Hairy Fan-flower
Haloragaceae	*Gonocarpus teucrioides*	Germander Raspwort
Hypericaceae	*Hypericum gramineum*	Little St. John's Wort
Lamiaceae	*Ajuga australis*	Austral Bugle
Lamiaceae	*Mentha diemenica*	Slender Mint
Lamiaceae	*Prostanthera rotundifolia*	Round-leaf Mintbush
Lamiaceae	*Prunella vulgaris**	Self-heal
Lauraceae	*Cassytha glabella*	Slender Dodder-laurel

Lauraceae	*Cassytha phaeolasia*	Rusty Dodder-laurel
Loranthaceae	*Amyema miquelii*	Box Mistletoe
Loranthaceae	*Muellerina eucalyptoides*	Creeping Mistletoe
Malvaceae	*Howittia trilocularis*	Blue Howittia
Malvaceae	*Lasiopetalum macrophyllum*	Shrubby Velvet-bush
Myrsinaceae	*Myrsine howittiana*	Muttonwood
Myrtaceae	*Acmena smithii*	Lilly-pilly
Myrtaceae	*Callistemon citrinus*	Crimson Bottlebrush
Myrtaceae	*Eucalyptus angophoroides*	Apple box
Myrtaceae	*Eucalyptus baueriana*	Green Box
Myrtaceae	*Eucalyptus bosistoana*	Coast Grey Box
Myrtaceae	*Eucalyptus cypellocarpa*	Mountain Grey-gum
Myrtaceae	*Eucalyptus elata*	River Peppermint
Myrtaceae	*Eucalyptus globoidea*	White Stringybark
Myrtaceae	*Eucalyptus globulus subsp bicostata*	Eurabbie
Myrtaceae	*Eucalyptus globulus subsp.pseudoglobulus*	Blue Gum
Myrtaceae	*Eucalyptus obliqua*	Messmate
Myrtaceae	*Eucalyptus sieberi*	Silver-top
Myrtaceae	*Eucalyptus tricarpa*	Ironbark
Myrtaceae	*Eucalyptus viminalis subsp. viminalis*	Manna Gum
Myrtaceae	*Kunzea sp.*	Burgan
Myrtaceae	*Leptospermum laevigatum*	Coast Tea-tree
Myrtaceae	*Melaleuca ericifolia*	Swamp Paperbark
Oleaceae	*Notelaea venosum*	Large Mock-olive
Phyllanthaceae	*Poranthera microphylla*	Small Poranthera
Pittosporaceae	*Billardiera fusiformis**	Bluebell Creeper
Pittosporaceae	*Billardiera mutabiis*	Climbing Apple-berry
Pittosporaceae	*Bursaria spinosa*	Sweet Bursaria
Pittosporaceae	*Bursaria spinosa var spinosa*	Sweet Bursaria
Pittosporaceae	*Pittosporum undulatum*	Sweet Pittosporum
Plantaginaceae	*Plantago debilis*	Shade Plantain
Plantaginaceae	*Plantago lanceolata**	Ribwort
Plantaginaceae	*Veronica plebeia*	Trailing Speedwell
Polygalaceae	*Comesperma defoliatum*	Leafless Milkwort
Polygonaceae	*Rumex sp**	Dock
Primulaceae	*Samolus repens*	Creeping Brookweed
Proteaceae	*Banksia integrifolia*	Coast Banksia
Proteaceae	*Banksia marginata*	Silver Banksia
Proteaceae	*Banksia serrata*	Saw Banksia
Proteaceae	*Grevillea celata*	Nowa Nowa Grevillea
Proteaceae	*Hakea eriantha*	Tree hakea

Proteaceae	*Lomatia ilicifolia*	Holly Lomatia
Proteaceae	*Persoonia linearis*	Narrow-leaf Geebung
Ranunculaceae	*Clematis aristata*	Australian Clematis
Ranunculaceae	*Clematis glycinoides*	Forest Clematis
Ranunculaceae	*Ranunculus scapiger*	Hairy Buttercup
Rhamnaceae	*Pomaderris aspera*	Hazel Pomaderris
Rhamnaceae	*Pomaderris oraria subsp. calcicola*	Lime-stone Pomaderris
Rhamnaceae	*Spyridium parvifolium*	Dusty Miller
Rosaceae	*Acaena novae-zelandiae*	Bidgee-widgee Burr
Rosaceae	*Rubus parvifolius*	Small-leaf Bramble
Rosaceae	*Rubus sp**	Blackberry
Rubiaceae	*Coprosma quadrifida*	Prickly Currant-bush
Rubiaceae	*Galium leiocarpum*	Maori Bedstraw
Rubiaceae	*Gynochthodes jasminoides*	Jasmine Morinda
Rubiaceae	*Opercularia hispida*	Hairy Stinkweed
Rubiaceae	*Opercularia varia*	Variable Stinkweed
Rubiaceae	*Pomax umbellata*	Pomax
Rutaceae	*Acronychia oblongifolia*	Yellow-wood
Rutaceae	*Correa reflexa*	Common Correa
Rutaceae	*Zieria smithii*	Sandfly Zieria
Santalaceae	*Exocarpos cupressiformis*	Cherry Ballart
Sapindaceae	*Dodonaea triquetra*	Large-leaf Hop-bush
Scrophulariaceae	*Mazus pumilo*	Swamp Mazus
Scrophulariaceae	*Myoporum insulare*	Common Boobialla
Solanaceae	*Solanum aviculare*	Kangaroo Apple
Solanaceae	*Solanum furcatum **	Douglas Nightshade
Solanaceae	*Solanum prinophyllum*	Forest Nightshade
Solanaceae	*Solanum pseudocapsicum**	Madeira Winter-cherry
Sterculiaceae	*Brachychiton populneus*	Kurrajong
Thymeliaceae	*Pimelea axiflora*	Bootlace Bush
Thymeliaceae	*Pimelea humilis*	Common Rice-flower
Urticaceae	*Urtica incisa*	Scrub Nettle
Violaceae	*Melicytus dentatus*	Tree Violet
Violaceae	*Viola hederacea*	Ivy-leaf Violet

*Introduced species

APPENDIX II – Notes from Geoff Williams' presentation on platypus, May 2021 (courtesy of Peter Ware)

History and ecology

- Aboriginal legend is that the Platypus was born of a mother duck and a father water rat.
- English naturalist Dr George Shaw in 1799 declared it a forgery.
- Early names included Duckbill, Duckbill Mole, Water Mole and Duck Mole.
- The Platypus is an egg-laying mammal. The eggs are soft and leathery.
- The bill is soft and bendy, with nostrils on top and includes a means of electro-reception.
- The animal is evolved for immersion – very dense fur, low body temperature, webbed front feet.
- Back feet claws used mainly for grooming
- Venomous spurs behind the ankles are used principally for competing with other males at breeding time.
- Distribution: mostly down the eastern seaboard, much of Victoria, all of Tasmania.
- Habitat: generalist; freshwater rivers and streams, lakes, dams and even urban drains etc.
- Diet (has no teeth): water bugs, earthworms, snails, dragonflies, shrimp, etc.
- Needs to consume 20%-40% of its body mass daily.
- Home range can be from 1 km to 7 km of river bank.
- Not unusual to live for 20+ years.
- Mating occurs in spring, eggs hatch after 1 month, juveniles disperse in autumn.
- Litters consist of 1 to 3 young.

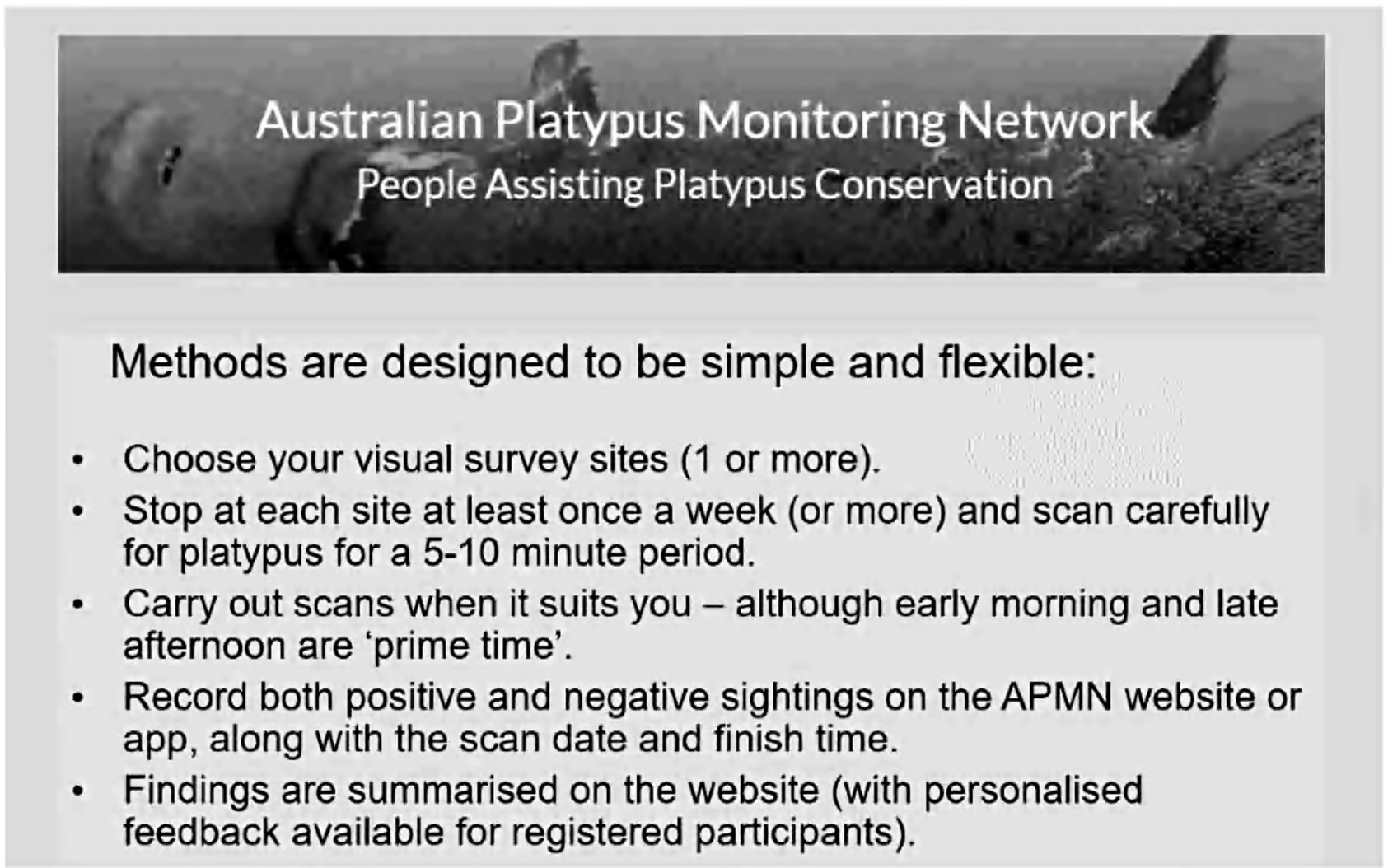
Conservation status

- 'Near Threatened' (IUCN) and 'Vulnerable' (Victoria)
- Threats include: erosion, sedimentation, bank compaction and vegetation loss, weed infestation, interruption to natural water flow, alterations to drainage patterns, drought and over-harvesting of water, predation, netting and trapping, and litter.

Monitoring

- Live trapping is challenging, requires expertise and is not especially efficient.
- Sighting reports can be inaccurate and non-standardised.
- Camera technology is being developed.
- Environmental DNA testing only indicates presence or absence and in flowing streams is unreliable.
- Citizen science is proving valuable.

- Recommended monitoring method:



- Scan for ripple wake, duck-diving behaviour – animal usually points upstream.
- Sightings can also be reported to iNaturalist or Atlas of Living Australia, or emailed to Australian Platypus Conservancy – platypus.apc@westnet.com.au